

Invariants of the action of a semisimple finite-dimensional Hopf algebra on special algebras

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Abstract

In this paper we extend classical results of the invariant theory of finite groups to the action of a finite-dimensional semisimple Hopf algebra H on a special algebra A , which is homomorphically mapped onto a commutative integral domain, and the kernel of this map contains no nonzero H -stable ideals. We prove that the algebra A is finitely generated as a module over a subalgebra of invariants, and the latter is finitely generated as a k -algebra. We give a counterexample to the finite generation of a non-semisimple Hopf algebra. © 2011 Allerton Press, Inc.

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Keywords

Hopf algebras, invariant rings